Shafter~Wasco Irrigation District

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Addendum to the November, 2015 Shafter-Wasco Irrigation District (SWID) "Water Conservation Plan" known as the "Water Management Plan"

An Addendum to the Shafter-Wasco Irrigation District (SWID) Water Management Plan was prepared to meet the requirements by California Department of Water Resources (DWR) for compliance with the California Water Code and the Executive Order B-29-15 issued by Governor Brown on April 1, 2015. The Addendum follows guidance provided in the DWR's *Guidebook to Assist Agricultural Water Suppliers to Prepare a 2015 Agricultural Water Management Plan* (June 2015), pages 67 - 74.

In accordance with the DWR's Guidebook, the Addendum must include:

- specific water measurement reporting and documentation
- an expanded drought management plan
- a high level summary of water uses and supplies for 2013-2015
- reporting on Efficient Water Management Practices (EWMP) (to maintain grant and loan eligibility)

In addition, there are requirements for notification of plan preparation and public participation that must be met, as noted in item 5.

Given that SWID has an existing Water Management Plan that was adopted in November, 2015 and given it is accepted as adequate by Reclamation, submission of the existing Water Management Plan, along with an Addendum containing the Agricultural Water Measurement Regulation documentation and compliance with the Executive Order B-29-15 is sufficient to satisfy the requirements of the Water Code Part 2.8 for a 2015 AWMP.

For the preparation of the Addendum, the following five outline items identify the location of the information in the existing Water Management Plan, or, present the necessary additional information.

Agricultural Water Measurement Regulation Documentation

Sufficient information in contained in the existing Water Management Plan for the following:

Attachment A: Legal Certification and Apportionment Required for Water Measurement
Attachment B: Engineer Certification and Apportionment Required for Water Measurement
Attachment C: Description of Water Measurement Best Professional Practices
Attachment D: Documentation of Water Measurement Conversion to Volume
Attachment E: Device Corrective Action Plan Required for Water Measurement

Drought Management Plan

Governor Brown issued Executive Order B-29-15 on April 1, 2015, directing all agricultural water suppliers that supply 10,000 or more irrigated aces to include a detailed drought management plan that describes the actions and measures the supplier will take to manage water demand during drought.

As stated in the Executive Order, *the Drought Management Plan should detail how the water supplier would prepare for droughts and manage water supplies and allocations during drought conditions. Some components or actions may require detailed review of conditions, policy changes, and long term capital improvements. Additionally, as conditions change and new technology and knowledge becomes available, opportunities and constraints will change.*

The Addendum will need to identify and describe the water shortage allocation policies and changes to the policies, as required by the Water Code, and identify any other key components of the drought management plan. SWID's Water Shortage Allocation Policy needs to be identified and included in this section. In addition to the water shortage allocation policy, the drought management plan, at a minimum, consider describing the following components tailored to SWID:

a) *What hydraulic levels or conditions (reservoir levels, streamflows, groundwater, snowpack etc.) are monitored and measured to determine the water supply available and level of drought severity.*

The primary source of surface supply for the District is its contract for CVP water through the Friant-Kern Canal. Hydrologic conditions affecting supply and operations of the CVP are extensively monitored by USBR and used to forecast allocations to each of the project's contractors. Deliveries from the Friant-Kern Canal into the District's system are measured. In addition, the District participates in water purchase and transfer programs that acquire water supplies which are typically acquired during wet periods, placed into groundwater storage outside of the District, and recovered for in-district use in dry years. The District also monitors groundwater elevations for compliance with DWR's CASGEM program.

Determinations of drought severity as it applies to the CVP are developed by USBR. Data on groundwater elevations are used by the District to assess drought severity.

b) *The district's policy and process for declaring a water shortage and implementing the water shortage allocation and drought management plan.*

Water supplies available from the CVP are governed by watershed precipitation, snow melt runoff and other hydrologic factors that affect the yield of the CVP. For CVP water, in any year when the District's water supply is less the total of the contract amounts for all water users in the service areas, each water user is allocated a pro-rated share of the District's total water supply in accordance with the shortage policy described for the District. The District may also allocate supplies obtained through active purchase and transfer programs and from surface supplies retrieved from previously stored water in groundwater banks. In the future, SWID plans to add an in-district, "SWID Recharge Project". A portion of the water allocated to water users may be from sources other than the CVP, including water it returns as a delivery into the District from storage in banking projects located outside of the District.

During years when the availability of water from the CVP is limited, the District landowners pump groundwater from landowner-owned wells as part of the District's conjunctive management strategy. The District also recovers water from banking from the North Kern Water Storage District.

c) *Operational Adjustments- changes in district water management and district operations to respond to drought, including canal and reservoir operations and groundwater management*

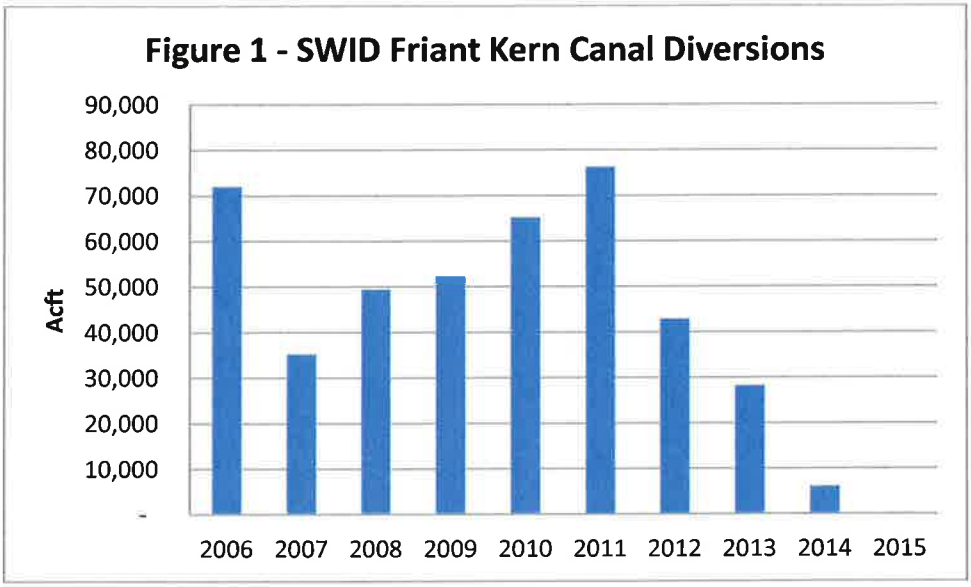
Figure 1 shows the annual diversion of the District from the Friant Kern Canal from 2006-2015. The figure illustrates that in a "dry" year, surface water supplies can be very limited as in 2014. Under these conditions, pumping from both landowner-owned-and-operated wells increases to meet demands. By

contrast, in a recent "wet" year such as 2011, surface water deliveries exceeded 76,000 AF delivered within the District and slightly under 1,000 AF delivered to banking facilities located outside of the District. The "wet" year deliveries satisfy irrigation water requirements within the District's Contract Service Area (and thereby minimize the use of groundwater), and can be delivered to groundwater recharge to store surface supplies for later delivery into the District for use in dry periods.

During droughts, because surface water supplies available to the District are reduced, measures to improve management of surface water through canal and pipeline operations have limited effectiveness. The District's response to dry conditions has been to exercise conjunctive management by interconnecting their distribution system to allow groundwater supplies to be distributed more effectively within the District. The District increasing the connection to District- and privately-owned wells to compensate for reduced deliveries of surface water.

Due to its length and severity, the current drought is causing the District landowners to rely on groundwater. In addition to the drought response measures undertaken by the District, individual land-owners within the District service area have been actively managing land, water and other resources to minimize drought-induced impacts on their farming operations.

Figure 1 - SWID Friant Kern Canal Diversions



Source: District Records

d) *Demand Management- policies and incentives in addition to the water shortage allocation plan to lower on farm water use.*

The District's programs for demand management includes operating a delivery system that delivers water to the on-farm, irrigation systems and the District has conjunctively managed available supplies to meet demands. The District has purchased surface water supplies available during wet periods, placed the supplies into groundwater storage, and supplemented limited surface supplies during times of drought with the extraction and return of previously stored water. However, for the most part, rather than instituting district-governed policies and incentives to lower on-farm water use, the District's approach to demand management has been largely to provide the high degree of flexibility and responsiveness in deliveries necessary to enable growers to manage water efficiently under all conditions. These practices include use of district-owned conveyance facilities to deliver water transferred to land holdings within the service area.

The District also provides clear estimates of water allocations so that growers can make well-informed farming decisions. The level of operational responsiveness provided by the District together with early projections of water allocations are particularly crucial during droughts when farmers must make challenging decisions on how best to manage their farmland including decisions on planting and on allocation of water among established crops.

e) *Alternative Water Supplies- discuss the potential if possible for the district to obtain or utilize additional water supplies. These supplies could include transfers from another water agency or district, the use of recycled water and desalination of brackish groundwater or drainage water.*

As previously mentioned, the District's principal source of surface water is its contract for CVP water. In addition, the District can gain access to supplemental supplies of water through purchases and transfers. Throughout the drought, the District has adhered to its fundamental strategy of returning previously stored water from groundwater banks and on additional purchases and transfers, when available, to satisfy demands within the District's service areas.

f) *Stages of Actions- include the stages of action and corresponding levels of drought severity that district will implement in response to the drought.*

Drought response in the District is a responsibility shared by the District and its growers. The District's drought response policies are intended to allocate available surface water, augmented by delivery of previously stored water in groundwater banks located outside of the District and from groundwater pumped from district-controlled wells, in a manner that is equitable and consistent with the District's operational policies while maintaining the District's financial viability. An important objective of this approach is to provide growers with an accurate assessment of the volume and cost of water that will become available to them so they can utilize this water in a manner that is best suited to the requirements of their farming operations.

Because the quantity of CVP water available to the District in any given year is beyond the District's control, the District's drought response measures center on managing water previously stored in groundwater banks and opportunities to purchase or transfer water during the dry periods. Reduced allocations of District-supplied water have placed the responsibility of managing these reduced supplies on growers to determine how best to utilize limited water supplies through deficit irrigation. The District has recently invested in converting farm land into in-district groundwater recharge facility as a method to conserve groundwater and store available surface supplies.

g) *Coordination and Collaboration- include a description on how coordination and collaboration with other local districts and water agencies or regional groups will be used in drought response.*

The District has participated in drought programs through coordination and collaboration with Reclamation, neighboring SWP contractors, and other neighboring CVP contractors. Implementation of the Sustainable Groundwater Management Act (SGMA) through participation in the Kern Groundwater Authority will provide yet another mechanism for regional collaboration and coordination. Regional efforts to implement this legislation will provide a firm, cooperative basis for management of groundwater during all conditions, but will be particularly important as a tool for drought response.

h) *Revenues and Expenditures- describe how the drought and lower water allocations will affect the districts revenues and expenditures.*

The District's Board of Directors annually establishes a water allocation of available supplies and establishes water rates. Water and the cost for the water is applied on a per-acre basis and is based on budget requirements and Board policy.

Since CVP water is delivered into the District's distribution system and distributed using pressurized laterals, the cost of distributing surface water in the pressurized distribution system is attributable to the fixed costs of operating and maintaining the canal and pipeline distribution system.

The District's Service Charge is based on the volume of surface water projected to be available to the District during the coming irrigation season, and uncertainties in these projections can result in unexpected expenditures to both the District and to its water users.

Quantification of Water Demands and Supplies

SWID has provided table information as required to report on their overall water supplies and uses in the District during the drought years of 2013, 2014, and 2015. This water budget summary was completed using a water demand estimate based on the irrigated acres identified in the crop surveys.

Water Budget Summary (AF)

Water Accounting	2013	2014	2015
Water Supplies	23,953	11,450	5,005
Water Uses/Demands	104,033	103,144	101,026
Private GW Pumping[1]	*80,080*	*91,694*	*96,020*

[1]Values are not reported to the District. Values represent the difference between the estimated water use (based on crop surveys) and the measured water supplies.

EWMP Documentation

A schedule, financing plan, and budget for the remaining EWMP's is provided in this SWID addendum in order to maintain loan and grant eligibility. The table on the next page provides a format for reporting and identifies items that part of the 3-year Budget for Implementing Best Management Practices identified in the existing Water Management Plan, page 4-28.

The District has initiated conversion of some irrigated farm land to groundwater recharge basins which is s combination of implementing conditional EWMPs no. 1, 5, and 8. The total project costs to develop the groundwater recharge basins is in the order of $12 million.

Schedule to Implement EWMPs (Water Code §10608.56 (d))

EWMP	Implementation Schedule	Finance Plan	Budget Allotment (2015)	USBR 2011/2014 Criteria
Critical				
1 – Water Measurement			$200,000 6,500 hrs	**Critical 1**
2 - Volume-Based Pricing			$0	**Critical 4**
Conditional				
1 – Alternate Land Use			$0	Exemptible 1
2 – Recycled Water Use			$0	Exemptible 2
3 – On-Farm Irrigation Capital Improvements			$0	Exemptible 3
4 – Incentive Pricing Structure			$0	Exemptible 4
5 – Infrastructure Improvements			$0	Exemptible 5a Exemptible 5b
6 – Order/Delivery Flexibility			$0	Exemptible 6
7 – Supplier Spill and Tailwater Systems			$0	Exemptible 7
8 – Conjunctive Use			$0	Exemptible 9
9 – Automated Canal Controls			$0	Exemptible 10
10 – Customer Pump Test/Eval.			$0	Exemptible 11
11 – Water Conservation Coordinator			$5,000 80 hrs	Critical 2
12 – Water Management Services to Customers			$57,500 1,530 hrs	Critical 3
13 – Identify Institutional Changes			$0	No equivalent
14 – Supplier Pump Improved Efficiency			$0	Critical 5
Grand Total all EWMPs			$262,500	
Note: There is no equivalent USBR Conditional EWMP #13 or #14				

Notification, Public Participation, Adoption, and Submittal Requirements

The public process is to advertise a public hearing twice in the paper, minimum 5 days apart, with the public comment period ending 14

PROOF OF PUBLICATION

(2015.5 C.C.P.)
(GENERAL FORM)

STATE OF CALIFORNIA } ss.
County of Kern

I, the undersigned, am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a part of or interested in the above entitled matter. I am the chief clerk/publisher of *The Shafter Press*, a newspaper of general circulation, printed and published weekly, in the City of Shafter, County of Kern, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court order number 29926, of the County of Kern; that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and in any supplement thereof on the following dates, to-wit:

January 20, 27, 2016

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

(Signature)

Executed on 1-27-16
at Shafter, California

The *SHAFTER PRESS*
PO Box 1600
Shafter, CA 93263

Phone (661) 746-4942

PUBLIC NOTICE

PUBLIC HEARING NOTICE

Notice is hereby given that the Shafter-Wasco Irrigation District (SWID) will hold a public hearing on:
February 9, 2016 at 2:30 P.M.
Regarding:
Addendum to the 2015 Water Management Plan

The Water Conservation Act of 2009 requires federal agricultural water suppliers in California to prepare Water Management Plans (WMP) that are in compliance with the Bureau of Reclamation and the Department of Water Resources Requirements. Executive Order B-29-15 required Water Management Plans to include drought management plans, as well as the quantification of water supplies and demands for 2013, 2014, and 2015. To meet the requirements of this legislation, SWID is providing an addendum to their 2015 WMP. The SWID Board of Directors will hold a hearing to consider public comments on the proposed Addendum to the 2015 WMP.

A copy of the Addendum to the 2015 WMP may be reviewed at the District office (16294 Central Valley Hwy, Wasco, CA 93280) or on the District's website (www.swid.org). Written comments, submitted prior to the hearing should be directed to:

Dana Munn, General Manager
Shafter-Wasco Irrigation District
16294 Central Valley Hwy, Wasco, CA 93280
P.O. Box 1168, Wasco, CA 93280

Comments may also be provided at the hearing.

If you have questions regarding the Addendum to the 2015 WMP, please contact Dana Munn at (661) 758-5153.

Publish *Shafter Press* January 20, 27, 2016

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SHAFTER-WASCO IRRIGATION DISTRICT APPROVING AN ADDENDUM TO THE WATER MANAGEMENT PLAN

RESOLUTION NO. 16-02

WHEREAS, the Shafter-Wasco Irrigation District completed an Addendum to their 2015 Water Management Plan comply with Executive Order B-29-15 and in accordance with the requirements of the Water Conservation Bill of 2009 (SBx7-7) and approved by the California Department of Water Resources (DWR).

WHEREAS, this AWMP update conforms to requirements presented in A Guidebook to Assist Agricultural Water Suppliers to Prepare a 2015 Agricultural Water Management Plan issued by the California Department of Water Resources (DWR) in June, 2015 to aid water suppliers in preparing Agricultural Water Management Plans; and

WHEREAS, the requirements in SBx7-7 and in the Executive Order B-29-15 are intended to encourage agricultural water suppliers to assess current efficient water management practices, to evaluate additional practices that may conserve water, and to require a certain level of accurate measurement of water. As such the AWMP process presents an opportunity for water suppliers to demonstrate existing and planned activities and programs designed to improve the effective use of water and water use efficiency; and

WHEREAS, the District's consultant prepared an Addendum to the 2015 Water Management Plan at the direction of the District Board; and

WHEREAS, a public hearing was held on February 9, 2016, to consider adoption of the proposed Addendum to the 2015 Water Management Plan and no comments were submitted nor formal protests were submitted on such proposal; and

WHEREAS, the Board believes that the adoption of the proposed Addendum to the 2015 Water Management Plan is in the best interests of the District and its landowners;

NOW, THEREFORE, BE IT RESOLVED that:

(1) The foregoing findings, and each of them, are true and correct.

(2) The District approves and adopts the Addendum to the 2015 Water Management Plan in accordance with the Executive Order B-29-15, as prepared by the District's consultant.

(3) The Board hereby authorizes the officers and staff of the District to execute all documents and take any other action necessary or advisable to carry out the purpose of this resolution.

ALL THE FOREGOING, being on a motion of Director Samuel D. Frantz and seconded by Director Roger Riley, was authorized by the following vote:

AYES:	D. Mark Franz, Samuel D. Frantz, Joel Ackerknecht, Craig Fulwyler and Roger Riley
NOES:	None
ABSENT:	None
ABSTAIN:	None

I HEREBY CERTIFY that the foregoing resolution is the resolution of said District as duly passed and adopted by said Board of Directors on the 9th day of February, 2016.

WITNESS my hand and seal of said Board of Directors this 9th day of February 2016.

Secretary of the Board of Directors